



**[6450-01-P]**

**DEPARTMENT OF ENERGY**

**[Case Number 2017-011; EERE-2017-BT-WAV-0049]**

**Energy Conservation Program: Decision and Order Granting a Waiver to Big Ass Solutions from the Department of Energy Ceiling Fan Test Procedure**

**AGENCY:** Office of Energy Efficiency and Renewable Energy, Department of Energy.

**ACTION:** Notice of decision and order.

**SUMMARY:** The U.S. Department of Energy (“DOE”) gives notice of a Decision and Order (Case Number 2017-011) that grants to Big Ass Solutions (“BAS”) a waiver from specified portions of the DOE test procedure for determining the energy efficiency of ceiling fans. Under the Decision and Order, BAS is required to test and rate specified basic models of its ceiling fans in accordance with the alternate test procedure specified in the Decision and Order.

**DATES:** The Decision and Order is effective on **[INSERT DATE OF PUBLICATION IN THE *FEDERAL REGISTER*]**. The Decision and Order will terminate upon the compliance date of any future amendment to the test procedure for ceiling fans located in 10 CFR part 430, subpart B, appendix U that addresses the issues presented in this waiver. At such time, BAS must use the relevant test procedure for this product for any testing to demonstrate compliance with standards, and any other representations of energy use.

**FOR FURTHER INFORMATION CONTACT:**

Ms. Lucy deButts, U.S. Department of Energy, Office of Energy Efficiency and Renewable Energy, Building Technologies Office, EE-5B, 1000 Independence Avenue, SW., Washington, DC, 20585-0121. E-mail: [AS\\_Waiver\\_Requests@ee.doe.gov](mailto:AS_Waiver_Requests@ee.doe.gov).

Ms. Elizabeth Kohl, U.S. Department of Energy, Office of the General Counsel, Mail Stop GC-33, Forrestal Building, 1000 Independence Avenue, SW., Washington, DC 20585-0103. E-mail: *Elizabeth.Kohl@hq.doe.gov*. Telephone (202) 586-7796.

**SUPPLEMENTARY INFORMATION:**

In accordance with Title 10 of the Code of Federal Regulations (10 CFR 430.27(f)(2)), DOE gives notice of the issuance of its Decision and Order as set forth below. The Decision and Order grants BAS a waiver from the applicable test procedure in 10 CFR part 430, subpart B, appendix U for specified basic models of ceiling fans, provided that BAS tests and rates such products using the alternate test procedure specified in the Decision and Order. BAS's representations concerning the energy efficiency of the specified basic models must be based on testing according to the provisions and restrictions in the alternate test procedure set forth in the Decision and Order, and the representations must fairly disclose the test results. Distributors, retailers, and private labelers are held to the same requirements when making representations regarding the energy efficiency of these products. (42 U.S.C. 6293(c))

Consistent with 10 CFR 430.27(j), not later than **[INSERT DATE 60 DAYS AFTER DATE OF PUBLICATION IN THE *FEDERAL REGISTER*]**, any manufacturer currently distributing in commerce in the United States products employing a technology or characteristic that results in the same need for a waiver from the applicable test procedure must submit a petition for waiver. Manufacturers not currently distributing such products in commerce in the United States must petition for and be granted a waiver prior to the distribution in commerce of those products in the United States. Manufacturers may also submit a request for interim waiver pursuant to the requirements of 10 CFR 430.27.

Signed in Washington, DC, on October 9, 2018.

**Kathleen B. Hogan,**

*Deputy Assistant Secretary for Energy Efficiency,*

*Energy Efficiency and Renewable Energy.*

**Case #2017-011**  
**Decision and Order**

**I. Background and Authority**

The Energy Policy and Conservation Act of 1975 (“EPCA”),<sup>1</sup> Public Law 94-163 (42 U.S.C. 6291–6317, as codified), among other things, authorizes the U.S. Department of Energy (“DOE”) to regulate the energy efficiency of a number of consumer products and industrial equipment. Title III, Part B<sup>2</sup> of EPCA established the Energy Conservation Program for Consumer Products Other Than Automobiles, which sets forth a variety of provisions designed to improve energy efficiency for certain types of consumer products. These products include ceiling fans, the focus of this document. (42 U.S.C. 6291(49); 42 U.S.C. 6295(ff))

Under EPCA, DOE’s energy conservation program consists essentially of four parts: (1) testing, (2) labeling, (3) Federal energy conservation standards, and (4) certification and enforcement procedures. Relevant provisions of EPCA include definitions (42 U.S.C. 6291), energy conservation standards (42 U.S.C. 6295), test procedures (42 U.S.C. 6293), labeling provisions (42 U.S.C. 6294), and the authority to require information and reports from manufacturers (42 U.S.C. 6296).

The Federal testing requirements consist of test procedures that manufacturers of covered products must use as the basis for: (1) certifying to DOE that their products comply with the

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<sup>1</sup> All references to EPCA in this document refer to the statute as amended through the EPS Improvement Act of 2017, Public Law 115-115 (January 12, 2018).

<sup>2</sup> For editorial reasons, upon codification in the U.S. Code, Part B was redesignated as Part A.

applicable energy conservation standards adopted pursuant to EPCA (42 U.S.C. 6295(s)), and (2) making representations about the efficiency of that product (42 U.S.C. 6293(c)). Similarly, DOE must use these test procedures to determine whether the product complies with relevant standards promulgated under EPCA. (42 U.S.C. 6295(s))

Under 42 U.S.C. 6293, EPCA sets forth the criteria and procedures DOE is required to follow when prescribing or amending test procedures for covered products. EPCA requires that any test procedures prescribed or amended under this section must be reasonably designed to produce test results which reflect energy efficiency, energy use or estimated annual operating cost of a covered product during a representative average use cycle or period of use and requires that test procedures not be unduly burdensome to conduct. (42 U.S.C. 6293(b)(3)) The test procedure for ceiling fans is contained in the Code of Federal Regulations (“CFR”) at 10 CFR part 430, subpart B, appendix U, *Uniform test method for measuring the energy consumption of ceiling fans* (“Appendix U”).

Under 10 CFR 430.27, any interested person may submit a petition for waiver from DOE’s test procedure requirements. DOE will grant a waiver from the test procedure requirements if DOE determines either that the basic model for which the waiver was requested contains a design characteristic that prevents testing of the basic model according to the prescribed test procedures, or that the prescribed test procedures evaluate the basic model in a manner so unrepresentative of its true energy consumption characteristics as to provide materially inaccurate comparative data. 10 CFR 430.27(a)(1). DOE may grant the waiver subject to conditions, including adherence to alternate test procedures. 10 CFR 430.27(f)(2).

## **II. Petition for Waiver: Assertions and Determinations**

By letter dated June 14, 2017, BAS filed a petition for waiver and an application for interim waiver from the test procedure applicable to ceiling fans set forth in Appendix U. According to BAS, testing at low speed for the basic models listed in the petition<sup>3</sup> may cause BAS undue hardship in meeting the stability requirements contained in appendix U. BAS stated that when testing the specified basic models at low speed the average air speed is so low that the acceptable variance under the stability criteria is often less than 2 feet per minute, which falls below the accuracies for airflow sensors required in section 3.3.2 of Appendix U. Consequently, in its petition, BAS offered two alternate test procedures for determining the stability criteria for testing low-speed small-diameter ceiling fans at low speed: (1) BAS's preferred method, which would require BAS to employ a stability criteria using airflow instead of air velocity measurements, and (2) BAS's alternate method, which would require relaxing the low speed stability criteria from DOE's requirement of 5 percent to 10 percent. BAS initially stated that this second method is not preferred because it could add significant variability to the calculated airflow on low speed. BAS also requested an interim waiver from the existing DOE test procedure. However, by email dated December 6, 2017, BAS withdrew its preferred method for modifying the stability criteria from consideration. Instead, BAS requested that DOE consider its alternate method as its recommendation for the alternate test procedure.<sup>4</sup>

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<sup>3</sup> The specific basic models for which the petition applies are ceiling fan basic models Isis F-IS2-0601S4, Isis F-IS2-0601, Isis F-IS2-0401L8S4, Isis F-IS2-0401L8, Isis F-IS2-0401I06L8S4, Isis F-IS2-0401I06L8, Isis F-IS2-0501L8S4 and Isis F-IS2-0501L8. These basic model names were provided by BAS in its June 2017 petition.

<sup>4</sup> A copy of the email is available at <http://www.regulations.gov>, under docket number EERE-2017-BT-WAV-0049.

On March 23, 2018, DOE published a notice announcing its receipt of the petition for waiver and granting BAS an interim waiver. 83 FR 12726. In the notice of petition for waiver, DOE reviewed the alternate test procedure suggested by BAS and granted the interim waiver initially finding that the alternate test procedure of relaxing the stability criteria for low speed will allow for the accurate measurement of efficiency of these products, while alleviating the testing problems associated with BAS's implementation of ceiling fan testing for the basic models specified in its petition. In that notice, DOE also solicited comments from interested parties on all aspects of the petition and specified an alternate test procedure that must be followed for testing and certifying the specific basic models for which BAS requested a waiver. *Id.*

DOE received two relevant comments to the notice of petition for waiver.<sup>5</sup> Both comments were supportive of DOE granting the waiver and encouraged DOE to make the alternate test procedure available to all ceiling fan manufacturers. Specifically, Hunter stated that it supports BAS's waiver and encouraged DOE to make the BAS alternate test procedure available to all ceiling fan test facilities that are dealing with similar issues with meeting stability criteria.<sup>6</sup> (Hunter, No. 6 at p. 1) American Lighting Association (ALA) stated that it supports BAS for bringing the issue forward. ALA stated that the issue of stability testing has plagued many manufacturers, and that if approval of the waiver is granted, then DOE should make the

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<sup>5</sup> DOE received other comments regarding issues unrelated to the waiver petition. See the docket for this notice at <https://www.regulations.gov/docket?D=EERE-2017-BT-WAV-0049>.

<sup>6</sup> Hunter's comment can be accessed at: <https://www.regulations.gov/document?D=EERE-2017-BT-WAV-0049-0006>.

alternate test procedure applicable to all manufacturers of small diameter ceiling fans so that testing burden is reduced.<sup>7</sup> (ALA, No. 8 at p. 2)

While the petition for waiver from BAS and the interim waiver granted by DOE addressed the required testing at low speed only, Hunter also suggested that the same alternate test procedure stability criteria be applied to high speed as well, stating that there is test efficiency gain for high speed also. (Hunter, No. 6 at p. 2) Furthermore, Hunter stated that although relaxing the air velocity stability criteria for low and high speed for the entire industry would help reduce undue burden, it also recommended that DOE consider requiring stability for airflow instead of air velocity, stating that when overall airflow on low or high speed from one test run to the next is substantially unchanged, stability is reached, and that air velocity being the same for a particular sensor from one second to the next is of no real consequence and unnecessarily adds to the burden. *Id.*

As to Hunter's and ALA's request to make an alternate test procedure available to all manufacturers that are faced with similar issues as BAS, DOE considers such requests in the context of a rulemaking proceeding rather than through the waiver process. As noted, any manufacturer currently distributing in commerce in the United States products employing a technology or characteristic that results in the same need for a waiver from the applicable test procedure must submit a petition for waiver. 10 CFR 430.27(j). The waiver process addresses particular basic models that contain one or more design characteristics which either prevent testing according to the prescribed test procedures or cause the prescribed test procedures to

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<sup>7</sup> ALA's comment can be accessed at: <https://www.regulations.gov/document?D=EERE-2017-BT-WAV-0049-0008>.



evaluate the basic models in a manner so unrepresentative of its true energy and/or water consumption characteristics as to provide materially inaccurate comparative data. 10 CFR 430.27(a)(1). Changes to the test procedure that apply to the covered product more generally would appropriately be addressed as part of a rulemaking.

Regarding Hunter's request that DOE provide an alternate test procedure for testing at high speed, DOE would also consider such a request generally in the context of a rulemaking. The petition submitted by BAS does not address testing issues at high speed. DOE understands that the ceiling fans specified in the BAS petition, when operated at low speed, produce air velocities that have trouble meeting the stability criteria because the average air velocity is so low that it creates highly variable airflow patterns. BAS also specifically stated that at low speed for the basic models in question, the air speed is so low that the acceptable variance under the stability criteria (often less than 2 feet per minute) falls below the required accuracies for airflow sensors in section 3.3.2 of Appendix U (*i.e.*, the fans specified by BAS cannot be tested according the required test procedure). DOE understands that the cost of sensors to obtain the resolution needed at the very low speeds would be substantial. DOE is unaware of similar issues when testing at high speed. In the ceiling fan test procedure final rule, DOE observed that across nearly 40 fans tested at high speed, no sensors recorded an average velocity at levels low enough that the acceptable variance under the stability criteria fell below the required accuracies for airflow sensors in section 3.3.2 of Appendix U (*i.e.*, the average velocities were greater than 40 feet per minute). 81 FR 48620, 48628 (July 25, 2016). If Hunter has any test data indicating a problem with the stability criteria at high speed, DOE would consider that data in determining whether any changes to the test procedure would be appropriate.

Regarding Hunter's recommendation to require stability for airflow instead of air velocity to determining test room stability, under the current DOE test procedure, air velocity is measured at each sensor along the sensor arm, and airflow is calculated based on these measurements. The air velocity measurements indicate both the amount and location of air provided by the fan within the effective area (*i.e.*, the air profile). DOE found that large variations in air profile often indicate test room instability (*e.g.*, localized temperature gradients that effect airflow). Applying stability criteria to the air velocity measurements ensures that successive sets of measurements result in similar air profiles, which is indicative of test room stability. DOE has observed that the stability criteria applied only to airflow could be met with large variations in air profile (*i.e.*, at unstable test room conditions). This allows for airflow, and in turn fan efficiency, to vary significantly between multiple tests of the same fan because stable airflow can be achieved at varied test room conditions. If Hunter has any test data regarding the sufficiency of using airflow to conclude test room stability, however, DOE may consider stability criteria using airflow in a future rulemaking.

BAS's petition requested a waiver from the test procedure applicable to the specified ceiling fans only in regard to the stability criteria for testing at low speed. DOE reviewed the manufacturer specifications and test data provided by BAS. DOE concluded that the data demonstrated that the basic models specified in the petition cannot be tested under the DOE test procedure because when testing the basic models at low speed, the air speed is so low that the acceptable variance under the stability criteria (often less than 2 feet per minute) falls below the

required accuracies for airflow sensors in section 3.3.2 of Appendix U. This Decision and Order grants an alternate test procedure for low speed only.

DOE understands that absent a waiver, the basic models identified by BAS in its petition cannot be tested and rated for energy consumption on a basis representative of their true energy consumption characteristics. DOE has reviewed the recommended procedure suggested by BAS and concludes that it will allow for the accurate measurement of the energy use of the basic model, while alleviating the testing problems associated with BAS's implementation of DOE's applicable ceiling fan test procedure for the specified basic models. In the Decision and Order, DOE is requiring that BAS test and rate the ceiling fan basic models for which it has requested a waiver according to the alternate test procedure specified in the Decision and Order, which is identical to the procedure provided in the interim waiver

In its petition BAS sought a test procedure waiver for certain basic models. This Decision and Order is applicable only to BAS and only to the basic models listed and does not extend to any other basic models.

BAS may request that the scope of this waiver be extended to include additional basic models that employ the same technology as those listed in this waiver. 10 CFR 430.27(g). BAS may also submit another petition for waiver from the test procedure for additional basic models that employ a different technology and meet the criteria for test procedure waivers. 10 CFR 430.27(a)(1).

DOE notes that it may modify the waiver at any time upon DOE's determination that the factual basis underlying the petition for waiver is incorrect, or upon a determination that the results from the alternate test procedure are unrepresentative of the basic models' true energy consumption characteristics. 10 CFR 430.27(k)(1). Likewise, BAS may request that DOE rescind or modify the waiver if the company discovers an error in the information provided to DOE as part of its petition, determines that the waiver is no longer needed, or for other appropriate reasons. 10 CFR 430.27(k)(2).

### III. Consultations with Other Agencies

In accordance with 10 CFR 430.27(f)(2), DOE consulted with the Federal Trade Commission ("FTC") staff concerning the BAS petition for waiver. The FTC staff did not have any objections to granting a waiver to BAS.

### IV. Order

After careful consideration of all the material that was submitted by BAS and commenters in this matter, it is **ORDERED** that:

- (1) BAS must, as of the date of publication of this Order in the *Federal Register*, test and rate the following ceiling fan basic models with the alternate test procedure as set forth in paragraph (2):

Brand Name	Basic Model
Isis	F-IS2-0601S4
Isis	F-IS2-0601
Isis	F-IS2-0401L8S4
Isis	F-IS2-0401L8
Isis	F-IS2-0401I06L8S4

Isis	F-IS2-0401I06L8
Isis	F-IS2-0501L8S4
Isis	F-IS2-0501L8

(2) The alternate test procedure for the BAS basic models listed in paragraph (1) of this Order is the test procedure for ceiling fans prescribed by DOE at 10 CFR part 430, subpart B, appendix U, except that under section 3.3.2 of appendix U, the stability criteria for low speed is relaxed from 5 percent to 10 percent. The alternative test procedure shall apply as follows:

### *3.3.2 Airflow and Power Consumption Testing Procedure*

Measure the airflow (CFM) and power consumption (W) for HSSD ceiling fans until stable measurements are achieved, measuring at high speed only. Measure the airflow and power consumption for LSSD ceiling fans until stable measurements are achieved, measuring first at low speed and then at high speed. Airflow and power consumption measurements are considered stable for high speed if:

(1) The average air velocity for all axes for each sensor varies by less than 5% compared to the average air velocity measured for that same sensor in a successive set of air velocity measurements, and

(2) Average power consumption varies by less than 1% in a successive set of power consumption measurements.

Airflow and power consumption measurements are considered stable for low speed if:

(1) The average air velocity for all axes for each sensor varies by less than 10% compared to the average air velocity measured for that same sensor in a successive set of air velocity measurements, and

(2) Average power consumption varies by less than 1% in a successive set of power consumption measurements.

(3) *Representations.* BAS may not make representations about the efficiency of the basic models identified in paragraph (1) of this Order for compliance, marketing, or other purposes unless the basic model has been tested in accordance with the provisions set forth above and such representations fairly disclose the results of such testing in accordance with 10 CFR part 430, subpart B, appendix U and 10 CFR 429.32, as specified in this Order.

(4) This waiver shall remain in effect according to the provisions of 10 CFR 430.27.

(5) This waiver is issued on the condition that the statements, representations, and documentation provided by BAS are valid. If BAS makes any modifications to the configuration of these basic models, the waiver will no longer be valid and BAS will either be required to use the current Federal test method or submit a new application for a test procedure waiver. DOE may revoke or modify this waiver at any time if it determines the factual basis underlying the petition for waiver is incorrect, or the results from the alternate test procedure are unrepresentative of the basic models' true energy consumption characteristics. 10 CFR 430.27(k)(1). Likewise, BAS may request that DOE rescind or modify the waiver if BAS discovers an error in the information provided to DOE as part of its petition, determines that the waiver is no longer needed, or for other appropriate reasons. 10 CFR 430.27(k)(2).

(6) Granting of this waiver does not release BAS from the certification requirements set forth at 10 CFR part 429.

Signed in Washington, DC, on October 9, 2018

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Kathleen B. Hogan,  
Deputy Assistant Secretary for Energy Efficiency  
Energy Efficiency and Renewable Energy

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